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PPG INDUSTRIES, INC.
Intellectual Property Department
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EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT PAPER NUMBER

1732

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,764

Applicant(s)

RICHARDS ET AL.

Examiner

Jeff Wollschlager

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12, 16 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-15, 17-19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed August 7, 2006 has been entered. Claims 1-24 are pending. Claims 1, 13 and 17 are currently amended. Claims 12, 16 and 20 remain withdrawn from further consideration. Claims 1-11, 13-15, 17-19, and 21-24 are under examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Soehngen et al. (U.S. Patent 4,057,607; issued November 8, 1977).

Regarding claim 1, Soehngen et al. teach a process for manufacturing thermosetting powder coating compositions (Abstract; col. 4, lines 58-66) comprising: A) feeding a base material comprising a dry ingredients a resin and a curing agent to an extruder from an initial position (18); B) adding at least one hard to incorporate additive (e.g. aluminum flake, pigment, flow additives) to the base material after the base material enters the extruder and before it exits the extruder [(17); col. 9, lines 28-36; col. 5, lines 20-56] and C) passing the combined base material and hard to incorporate

additives(s) through at least a portion of the extruder to form a thermosetting powder coating composition (Abstract; Figure 1)

As to claim 2, Soehngen et al. control the amount of additives employed in a continuous extrusion process. The additives are controlled/adjusted to produce a product of the desired color.

As to claim 3, Soehngen et al. teach the base material travels through a portion of the extruder before the addition of the hard to incorporate additive(s) in step B) (extruder [(17); col. 9, lines 28-36; col. 5, lines 20-56]

As to claim 4, Soehngen et al. teach the hard to incorporate additives are introduced to the extruder at the initial position with the base material extruder (col. 5, lines 20-56 col. 9, lines 28-36)

As to claim 5, Soehngen et al. teach the process may be used to create different thermosetting powders using a common base material [Example; col. 8, lines 10 – col. 9, line 37; col. 5, lines 20-56; col. 4, lines 3,17; col. 2, lines 58-59).

As to claim 6, Soehngen et al. teach the hard to incorporate additive comprises pigment(s) (col. 9, lines 28-36; col. 5, lines 20-56).

As to claim 7, Soehngen et al. teach the hard to incorporate additive comprises pigments dispersed in a liquid/molten dispersion (col. 5, lines 20-30).

As to claim 8, Soehngen et al. teach the hard to incorporate additive comprise pigments dispersed in a dried form (col. 5, lines 20-30).

As to claim 9, Soehngen et al. teach the additive may comprise a flow additive (col. 5, lines 45-60).

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As to claim 10, Soehngen et al. teach the addition of the hard to incorporate additive is introduced by injection either through the port (17) or through line (5). It is noted that the portions between the hopper (18) and the die (15) broadly define the extruder.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Soehngen et al. (U.S. Patent 4,057,607; issued November 8, 1977), as applied to claims 1-10 above in view of Chang et al. (U.S. Patent 4,973,439; issued November 27, 1990).

As to claim 2, Soehngen et al. teach the method of claim 2 discussed in the 102(b) rejection above, but are vague as to the specifics of the control. However, specific delineation of the details regarding an analogous method of process control is provided by Chang et al. (col. 1, lines 1-14; col. 4, lines 52-67; col. 5, lines 44-60).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to control the process disclosed by Soehngen et al. in the manner delineated by Chang et al. for the purpose of creating a high quality product.

Claim 11 is rejected under 35 U.S.C. 103(a) as being obvious over Soehngen et al. (U.S. Patent 4,057,607; issued November 8, 1977), as applied to claims 1-10 above.

As to claim 11, Soehngen et al. teach the method of claim 10 as discussed in the 102(b) rejection above. Soehngen et al. further teach applying a controlled amount of material into the extruder (col. 9, lines 28-35; Figure 1, elements (17) or (1-5). The flow is regulated through the vent port or the outlet of the piston or the inlet to the piston extruder and is injected into the pressurized stream being extruded. It is noted that whatever feed device is employed by Soehngen et al. it is intrinsically coupled to a pressure source, whether the pressure source is pressure from the open atmosphere or another source. Soehngen et al. does not teach that the feed device contains a mechanism for maintaining the pressure in the vessel less than 100 psi. However, one having ordinary skill would have been motivated to control the pressure as low as possible for the purposes of minimizing capital costs, minimizing plant utility costs (e.g.

nitrogen), and to meet environmental requirements to minimize vapor emissions. It is further noted that the structural limitations of claim 11, appear to have little impact on the practice of the claimed method.

Claims 8, 13-15, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soehngen et al. (U.S. Patent 4,057,607; issued November 8, 1977). in view of Jaffe et al. (U.S. Patent 5,856,508; issued January 5, 1999).

As to claim 8, Soehngen et al. teach the method of claim 8 as discussed in the 102(b) rejection above. Alternatively, it is noted that Jaffe et al. teach a pigment with a particle size in the range from 0.5 to 4.0 micrometers with an unusual combination of light emission and outdoor durability (col. 2, lines 1-6) that is provided in dried form after being produced with an organic solvent (Example II).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the pigment taught by Jaffe et al. as a pigment/additive in the method taught by Soehngen et al. for the purpose, as taught by Jaffe et al. of providing a powder coating with superior outdoor durability (col. 2, lines 1-25).

Regarding claim 13, Soehngen et al. teach a process for manufacturing thermosetting powder coating compositions (Abstract) comprising: A) feeding a base material comprising as dry ingredients a resin and a curing agent to an extruder from an initial position B) adding pigment to the base material either separately or with the base materials and C) passing the combined base material and hard to incorporate

additives(s) through at least a portion of the extruder to form a thermosetting powder coating composition (Abstract, col. 9, lines 28-36; col. 5, lines 20-56; Figure 1).

Soehngen et al. do not teach that the pigment is a hyperdispersed pigment nor do they teach the hyperdispersed pigment is in the form of a dried liquid pigment dispersion that has been formed from a liquid pigment dispersion comprising greater than 5 weight percent organic solvent. It is noted that applicant defines a hyperdispersed pigment as a pigment having an average particle size of two microns or less.

However, Jaffe et al. teach a pigment with an overlapping particle size in the range from 0.5 to 4.0 micrometers/microns with an unusual combination of light emission and outdoor durability (col. 2, lines 1-6) that is provided in dried form after being produced with an organic solvent comprising greater than 5 weight percent organic solvent (Example II).

Therefore it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the claimed invention to employ the pigment taught by Jaffe et al. as a pigment/additive in the method taught by Soehngen et al. for the purpose, as taught by Jaffe et al. of providing a powder coating with superior outdoor durability (col. 2, lines 1-25).

As to claim 14, Soehngen et al. control the amount of additives employed in a continuous extrusion process. The additives are controlled/adjusted to produce a product of the desired color.

As to claim 15, Soehngen et al. teach the process may be used to create different thermosetting powders using a common base material [Example; col. 8, lines 10 – col. 9, line 37; col. 5, lines 20-56; col. 4, lines 3,17; col. 2, lines 58-59).

As to claim 21, Soehngen et al. teach the addition of the hard to incorporate additive is introduced by injection either through the port (17) or through line (5). It is noted that the portions between the hopper (18) and the die (15) broadly define the extruder assembly.

As to claim 22 Soehngen et al. teach applying a controlled amount of material into the extruder (col. 9, lines 28-35; Figure 1, elements (17) or (1-5). The flow is regulated through the vent port (17) or the outlet of the piston extruder and is injected into the pressurized stream being extruded. It is noted that whatever feed device is employed by Soehngen et al. it is intrinsically coupled to a pressure source, whether the pressure source is pressure from the open atmosphere or another source. Soehngen et al. does not teach that the feed device contains a mechanism for maintaining the pressure in the vessel less than 100 psi. One having ordinary skill would have been motivated to control the pressure as low as possible for the purposes of minimizing capital costs, minimizing plant utility costs (e.g. nitrogen), and to meet environmental requirements to minimize vapor emissions. It is further noted that the structural limitations of claim 22, appear to have little impact on the practice of the claimed method.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Soehngen et al. in view of Jaffe et al. (U.S. Patent 5,856,508; issued January 5, 1999), as applied to claims 13-15 above, and further in view of Chang et al. (U.S. Patent 4,973,439; issued November 27, 1990).

As to claim 14, Soehngen et al. in view of Chang et al. teach the method of claim 14 discussed in the 103(a) rejection above, but are vague as to the specifics of the control. Alternatively, however, specific delineation of the details regarding an analogous method of process control is provided by Chang et al. (col. 1, lines 1-14; col. 4, lines 52-67; col. 5, lines 44-60).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to control the process disclosed by Soehngen et al. in the manner delineated by Chang et al. for the purpose of creating a high quality product.

Claims 17-19, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soehngen et al. in view of Jaffe et al. (U.S. Patent 5,856,508; issued January 5, 1999) and further in view of Chang et al. (U.S. Patent 4,973,439; issued November 27, 1990).

Regarding claim 17, Soehngen et al. teach a process for manufacturing thermosetting powder coating compositions of desired color and appearance wherein the amount of pigment employed is implicitly determined, controlled, monitored and

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adjusted to produce a product of the desired color (Abstract; Figure 1, col. 2, lines 27-36; col. 4, lines 5-22 and 41-40; col. 5, lines 16-20 and 31-60).

Soehngen et al. do not teach that the pigment is a hyperdispersed pigment nor do they teach the hyperdispersed pigment is in the form of a dried liquid pigment dispersion that has been formed from a liquid pigment dispersion comprising greater than 5 weight percent organic solvent. It is noted that applicant defines a hyperdispersed pigment as a pigment having an average particle size of two microns or less.

However, Jaffe et al. teaches a pigment with an overlapping particle size in the range from 0.5 to 4.0 micrometers/microns with an unusual combination of light emission and outdoor durability (col. 2, lines 1-6) that is provided in dried form after being produced with an organic solvent comprising greater than 5 weight percent organic solvent (Example II).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the pigment taught by Jaffe et al. as a pigment/additive in the method taught by Soehngen for the purpose, as taught by Jaffe et al. of providing a powder coating with superior outdoor durability (col. 2, lines 1-25).

Further, Soehngen et al. are somewhat vague regarding the specifics of controlling the quality of his product. The obvious reason is that dynamic process control is well-known in the art. Specific delineation of the details regarding an

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analogous method of process control is provided by Chang et al. (col. 1, lines 1-14; col. 4, lines 52-67; col. 5, lines 44-60).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to control the process disclosed by Soehngen et al. in the manner delineated by Chang et al. for the purpose of creating a high quality product.

As to claim 18, Soehngen et al. teach the process may be used to create different thermosetting powders using a common base material [Example; col. 8, lines 10 – col. 9, line 37; col. 5, lines 20-56; col. 4, lines 3,17; col. 2, lines 58-59).

As to claim 19, Soehngen teach the hard to incorporate additive comprises pigments dispersed in a liquid pigment dispersion (col. 5, lines 20-40)

As to claim 23, Soehngen et al. teach the addition of the hard to incorporate additive is introduced by injection either through the port (17) or through line (5). It is noted that the portions between the hopper (18) and the die (15) broadly define the extruder assembly.

As to claim 24 Soehngen et al. teach applying a controlled amount of material into the extruder (col. 9, lines 28-35; Figure 1, elements (17) or (1-5). The flow is regulated through the vent port (17) or the outlet of the piston extruder and is injected into the pressurized stream being extruded. It is noted that whatever feed device is employed by Soehngen et al. it is intrinsically coupled to a pressure source, whether the pressure source is pressure from the open atmosphere or another source. Soehngen et al. does not teach that the feed device contains a mechanism for maintaining the

pressure in the vessel less than 100 psi. One having ordinary skill would have been motivated to control the pressure as low as possible for the purposes of minimizing capital costs, minimizing plant utility costs (e.g. nitrogen), and to meet environmental requirements to minimize vapor emissions. It is further noted that the structural limitations of claim 24, appear to have little impact on the practice of the claimed method.

Response to Arguments

Applicant's argument with respect to the 35 U.S.C. 112 second paragraph rejection of claim 4 has been considered and is persuasive. The rejection is withdrawn.

Applicant's arguments with respect to the 35 U.S.C. 102 and 35 U.S.C. 103 rejections of claims 1-11, 13-15, 17-19 and 21-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

All claims are rejected.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager
Examiner
Art Unit 1732

October 26, 2006


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10/30/06